

### REMARKS

Claims 1-16 and 21 are pending. New claim 21 has been added.

#### Prior Art Rejections

Claims 1-3 and 6-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over ITU-T Recommendation I.610, B-ISDN Operation and Maintenance Principles and Functions (11/95) (hereinafter "I.610") in view of U.S. Patent No. 6,519,257 (Brueckheimer).

Claim 1 has been amended to recite sending a sequence of cells, each cell having a specified pattern of bits, monitoring for a return sequence of cells, and deciding whether a continuity check is successful based on whether the return sequence of cells matches the sent sequence of cells. An exemplary sequence of cells that includes twenty 8-bit values is shown in FIG. 6. No new matter has been added. Utilizing a sequence of cells to evaluate continuity can advantageously expose and isolate a wide variety of potential failures in packet-switched networks. For example, in one implementation, a particular sequence of cells might be used to check proper transmission of both binary values (1, 0) at each bit position in a packet.

None of the asserted references, either alone or in combination, discloses or suggests a method of performing a continuity check that utilizes a sequence of cells, as is now recited in claim 1.

Instead, I.610 discloses a fault management function that includes loopback capability, which allows for operations-related information (*i.e.* a loopback cell) to be inserted at an originating point along a virtual channel or virtual path and looped-back at a different location. (*See* §6.2.2.1.3, page 21) The loopback is considered unsuccessful merely if the loopback cell is not returned to the originating point within a specified time interval. I.610 does not disclose or suggest using a sequence of cells to decide whether continuity exists, as is recited in claim 1.

The Brueckheimer patent discloses a method for routing narrow-band traffic among multiple adaptive grooming routers (AGR) coupled to an asynchronous transfer mode (ATM) network. (*See* FIG. 1) Each AGR includes an ATM switch and one or more adaptive virtual junctors (AVJ) that adapt narrow-band traffic to and from an ATM adaptation layer. (*See* FIG. 1

and column 3, lines 20-26) The AVJs have the capability of sending a digital signature as a means of authentication and to guard against false simulation of identity. (*See* column 13, lines 20-36) The AVJs also have loopback capability. (*See* column 11, lines 48-53) However, the Brueckheimer patent neither discloses nor suggests a method that includes using a sequence of cells to decide whether continuity exists, as is recited in claim 1.

Claim 1 should be allowable for at least the foregoing reasons.

Claims 2, 3 and 6-9 depend from claim 1 and, therefore, should be allowable for at least the same reasons as claim 1.

Claims 4, 5, 10-12 and 20 also were rejected under 35 U.S.C. §103(a) as being unpatentable over I.610 in view of the Brueckheimer patent.

Independent claims 4, 10 and 20 have been amended to recite features that are similar to those discussed above with reference to claim 1 and, therefore, also should be allowable for at least the reasons discussed above with reference to claim 1.

Claims 5, 11 and 12 depend from allowable claims and, therefore, also should be allowable for at least that reason.

Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Brueckheimer patent in view of U.S. Patent No. 5,555,261 (Nakayama et al.)

Claim 13 has been amended to recite that the communication system is adapted to utilize a sequence of cells to execute a continuity check. As discussed above, the Brueckheimer patent neither discloses nor suggests that feature. Nor does the Nakayama et al. patent disclose or suggest that feature.

Instead, the Nakayama et al. patent discloses an ATM switch path confirmation test in a system that includes a transmitting side ATM interface device 106 and a receiving side ATM interface device 107. (*See* FIG. 39 and column 35, lines 20-54) Each ATM interface device

106, 107 includes pattern generators 114, 139 and pattern checkers 122, 144. (See FIG. 41) The test includes starting a pattern generator 114 at the transmitting side ATM interface device 106 and starting a pattern checker 144 at the receiving side ATM device 107. The transmitting side ATM interface device 106 creates test data which is converted into a single ATM test cell. At the receiving side ATM interface device 107 the single test cell is subjected to a number of tests. The Nakayama et al. patent neither discloses nor suggests utilizing a sequence of cells to execute a continuity check.

Claim 13 should be allowable for at least the foregoing reasons.

Claim 14 depends from claim 13 and, therefore, should be allowable for at least the same reasons as claim 13.

Claim 16 also was rejected under 35 U.S.C. §103(a) as being unpatentable over the Brueckheimer patent in view of U.S. Patent No. 5,555,261 (Nakayama et al.)

Claim 16 also has been amended to recite that the communication system is adapted to utilize a sequence of cells to execute a continuity check. As discussed above, neither the Brueckheimer patent nor the Nakayama et al. patent discloses or suggests that feature.

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Brueckheimer patent in view of the Nakayama et al. patent and further in view of I.610. Claim 15 depends from claim 13, which recites a communication system adapted to utilize a sequence of cells to execute a continuity check. As discussed above, none of the cited references disclose or suggest that feature.

Claim 15, therefore, should be allowable for at least that reason.

§112, Second Paragraph Rejections

Claims 1-9 and 13-15 were rejected under the second paragraph of 35 U.S.C. §112, as allegedly being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the Office Action stated that, in claims 1 and 4, it was not clear whether “a packet network” recited in line 4 referred to the same packet network recited in line 3.

Applicants have amended claims 1 and 4 to clarify that issue and respectfully request withdrawal of those claim rejections.

The Office Action also stated that, in claim 13, it was not clear whether “a packet network” recited in line 3 referred to the same packet network recited in line 2. Applicants have amended claim 13 to clarify that issue and respectfully request withdrawal of that claim rejection.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

No fee is believed to be due. However, please apply any charges or credits to deposit account 06-1050.

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Respectfully submitted,

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